

**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF GENERAL SERVICES  
DIVISION OF CONSOLIDATED LABORATORY  
SERVICES**

**600 NORTH 5<sup>TH</sup> STREET  
RICHMOND, VIRGINIA 23219**

**1-866-493-1087**

**SAMPLING INSTRUCTIONS  
FOR WATER CHEMISTRY SAMPLES**

Responding to your request for water analysis, laboratory personnel have prepared and shipped the appropriate sample containers. These bottles and/or vials contain the correct preservatives. **DO NOT RINSE THESE BOTTLES PRIOR TO FILLING.** Depending on the parameters to be determined, the number of bottles supplied will vary. If more than one source is to be sampled it will be necessary to separate the bottles into sets. The label on each bottle will identify the type of sample (Ex.: INO = Inorganic nonmetals; NN = Nitrate (preserved); MET = Metals; RAD = Radiological).

**SAMPLE FORM**

1. Each sample kit comes with a pre-printed sample form (See example on last page).
2. Each sample form contains 2 peel-off labels to be placed on your sample bottle at the time of collection.
3. Before you begin your sample collection, fill out the information requested on this pre-printed form. The 2 pre-printed labels need the date and time of sample collection. When entering the time of collection use Military Time (see example below).

| Civilian | Military | Civilian   | Military | Civilian | Military |
|----------|----------|------------|----------|----------|----------|
| 6:00 AM  | 0600     | 10:15 AM   | 1015     | 1:00 PM  | 1300     |
| 7:30 AM  | 0730     | 11:00 AM   | 1100     | 3:25 PM  | 1525     |
| 9:00 AM  | 0900     | 12:00 Noon | 1200     | 5:00 PM  | 1700     |

4. Under the labels fill in the information requested on sample collector and give us a telephone number we can call if there is a problem with the sample shipment.
5. Remove a label from the sample form and place it on your sample container before collecting the sample. The labels stick better on a dry container.
6. Each sample bottle contains an identifying label that will match the sample container labels on the sample form (Ex.: INO is on the sample form and the peel-off labels and also on the sample bottle for Inorganics).
7. See the final page of these instructions for an example of the sample form.

## **SAMPLING PROCEDURE**

1. Samples must be taken at a cold water tap, with all screens, filters, aerators, etc., removed.
2. Run the water long enough to clear all water which has been standing in the lines (5 to 10 minutes).
3. Adjust the water flow from the tap so that water is not aerated when the sample bottle is filled.
4. Take one of the sample containers and carefully remove the cap, taking care not to touch the inside of the cap or sample bottle. Do not remove the cap from more than one bottle at a time
5. Fill the sample bottle completely, including as little air as possible in the bottle.
6. After filling the bottle, cap tightly
7. Ship the samples to the lab as soon as possible, preferably the same day as they were collected. All samples must be cooled to 4°C (the temperature of most refrigerators) immediately after collecting and during transport to the laboratory. The samples must be covered with

ice in the shipping container provided, to maintain a temperature of 4°C.

8. See the sampling instructions for specific kits regarding more detail on collecting different sample types.

## **SAMPLE SHIPMENT**

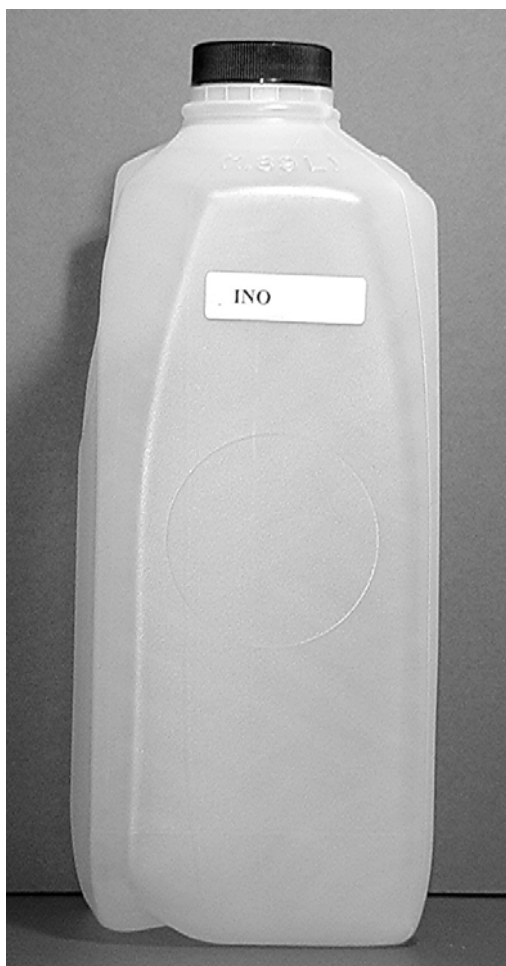
1. Place the sample containers in the shipping container/cooler provided by the lab.
2. Cover the samples with ice. Include enough ice to allow for some melting during shipping to the lab.
3. Put the Styrofoam lid on the cooler.
4. Place the Sample Report Forms in a separate Ziploc bag and seal the bag.
5. Place the bag with the forms on top of the Styrofoam lid and fold the cardboard flaps over the top inclosing the bag with of forms with the cooler.
6. Tape the box and ship to the DCLS Laboratory using one of the following:
  - a. DCLS Courier Service. Call the Regional VHD Office or the lab for the location of the nearest pick-up point for the courier service. There is no charge for the courier service.  
Laboratory Support Services: (804) 786-4453
  - b. UPS
  - c. Fed Ex
  - d. Personal Carrier

## INORGANIC KIT

CODE: **INO**

### Components:

1. INORGANIC FORM
2. ½ GALLON PLASTIC BOTTLE WITH CAP
3. INSTRUCTIONS – SAMPLING
4. COOLER
5. 8" X 10" ZIPLOC BAG (For returning sample form)
6. 2 RETURN ADDRESS LABEL.



To collect sample, remove the cap and fill the bottle to the top.

The sample bottle contains no preservative.

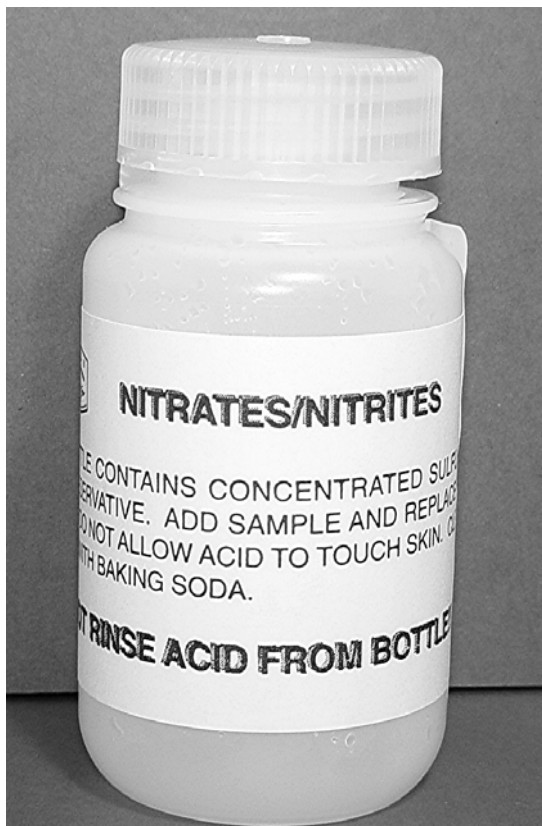
Replace the cap, making sure that it is tight and does not leak when the bottle is turned upside-down.

The inorganic sample must be kept at 4°C after collection. Refrigerate the samples until you can pack them on ice for shipping.

See the general shipping instructions on page 3.

**Component:**

1. NITRATE / NITRITE / HARDNESS FORM
2. 8" X 10" ZIPLOC BAG
3. #5 MAILING SLEEVE
4. 4-OZ (125 ML) PLASTIC BOTTLE (Containing a small amount of dilute sulfuric acid)



Sample bottle contains a small amount of dilute sulfuric acid (1:1) as a preservative.

To collect sample, remove the cap and fill the bottle to the top.

Replace the cap, making sure that it is tight and does not leak when the bottle is turned upside-down.

**Sample bottle does not have to be kept at 4°C and may be shipped without ice.** However, it is ok to ship it on ice with the rest of the samples that must be kept at 4°C.

The holding time (time from sample collection to analysis) for this sample is 14 days.

See the general shipping instructions on page 3.

## METALS

CODE: MET

### Components:

1. METALS FORM
2. #5 MAILING SLEEVE
3. INSTRUCTIONS – SAMPLING
4. 8 OZ (250 ML) PLASTIC BOTTLE (Containing a small amount of nitric acid)
5. 8" X 10" ZIPLOC BAG WITH POUCH AND ABSORBENT PAD



Sample bottle contains a small amount of dilute (1:1) nitric acid as a preservative. **DO NOT RINSE BOTTLE WITH SAMPLE.**

To collect sample, remove the cap and fill the bottle to the top.

Replace the cap, making sure that it is tight and does not leak when the bottle is turned upside-down.

Sample bottle does not have to be kept at 4°C and may be shipped with or without ice.

The holding time (time from sample collection to analysis) for this sample is 6 months.

See the general shipping instructions on page 3.

**Component:**

1. RADIOLOGICAL FORM
2. 1 GALLON CUBITAINER
3. INSTRUCTIONS – SAMPLING
4. 12" X 15" ZIPLOC BAG
5. 10" X 10" X 6 ½" BOX
6. RETURN ADDRESS LABEL



This sample container is collapsed for shipping and must be expanded to its full size before collecting a sample. The pressure from the water flowing into the container is not sufficient to expand the walls. The walls may be pulled apart.

This sample container has no preservative but is preserved on receipt in the lab. Sample must be preserved in lab within 5 days after collection.

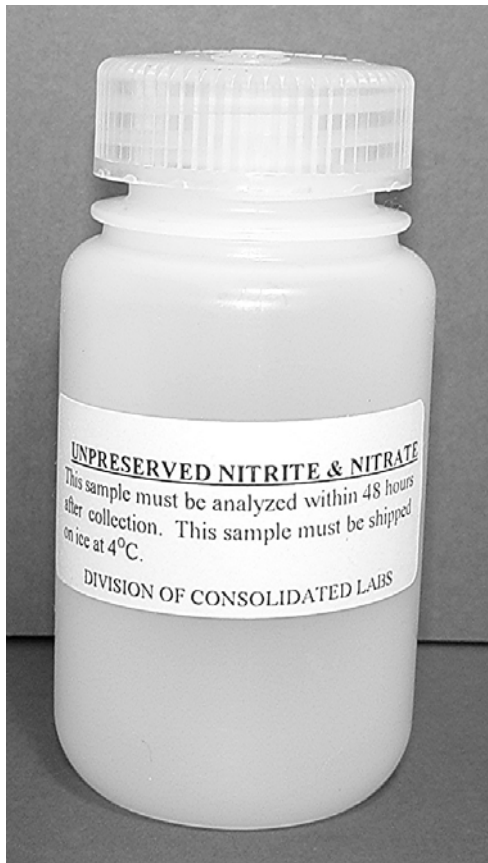
Sample bottle **does not** have to be kept at 4°C and may be shipped without ice.

Fill bottle **COMPLETELY** when sampling. A full bottle is required for analysis.

See the general shipping instructions on page 3.

**Component:**

1. NITRATE-N AND NITRITE-N FORM
2. 8" X 10" ZIPLOC BAG
3. COOLER
4. 12" X 15" ZIPLOC BAG
5. INSTRUCTIONS – SAMPLING
6. 4 OZ (125 ML) PLASTIC BOTTLE
7. RETURN ADDRESS LABEL – BLUE PRINT



THE HOLDING TIME FOR THIS SAMPLE IS 48 HOURS (From the time of collection to analysis in the lab)

Use a mode of transportation that will get the sample to the lab before 48 hours. The DCLS courier, UPS overnight, FedEx overnight or personally delivering the sample are the best choices.

To collect sample, remove the cap and fill the bottle to the top.

Replace the cap, making sure that it is tight and does not leak when the bottle is turned upside-down.

The nitrate/nitrite sample must be kept at 4°C after collection. Refrigerate the samples until you can pack them on ice for shipping.

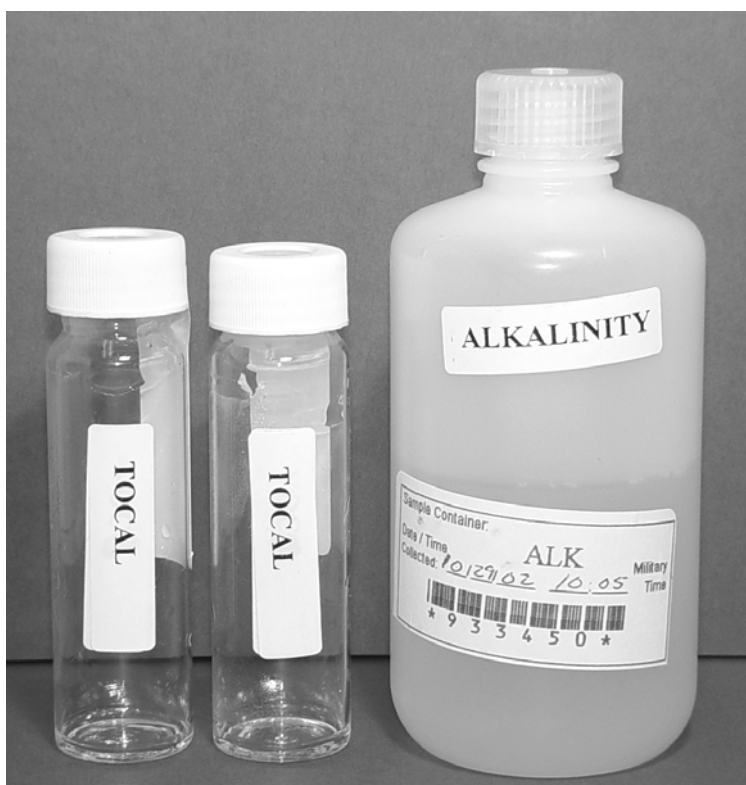
See the general shipping instructions on page 3.



## TOTAL ORGANIC CARBON/ALKALINITY CODE:TOCAL

### Component:

1. TOTAL ORGANIC CARBON / TOTAL ALKALINITY FORM
2. TWO 40-ML CLEAR GLASS VIALS (Containing a small amount of hydrochloric acid as a preservative)
3. POLYFOAM VIAL HOLDER
4. 12" X 15" ZIPLOC BAG
5. COOLER – 1 COOLER PER SAMPLING KIT
6. 8" X 10" ZIPLOC BAG
7. 8 OZ (250 ML) PLASTIC BOTTLE
8. INSTRUCTIONS – SAMPLING
9. RETURN ADDRESS LABEL



TOCAL vials contain a small amount of hydrochloric acid to preserve the samples. The ALKALINITY bottle contains no preservative.

To collect the samples, remove the caps and fill the bottles to the top.

Replace the caps, making sure that they are tight and do not leak when the bottles are turned upside-down.

The TOC/Alkalinity sample must be kept at 4°C after collection. Refrigerate the samples until you can pack them on ice for shipping.

See the general shipping instructions on page 3.

## HALOACETIC ACID (HAA5)

CODE: HAA

### Component:

1. HALOACETIC ACID [HAA] FORM
2. TWO BUBBLEWRAP SHEETS (To wrap vials for shipment)
3. COOLER
4. RETURN ADDRESS LABEL
5. 12" X 15" ZIPLOC BAG
6. TWO 60-ML AMBER GLASS VIALS (Contains potassium phosphate, monobasic; ammonium chloride; and sodium phosphate, dibasic)
7. INSTRUCTIONS – SAMPLING



Turn the tap on and allow the water to flush until the temperature has become constant (usually about 5 to 10 minutes).

Adjust the flow to a trickle (about the size of a pencil). Fill the sample vial completely full until the water is raised-up above the top of the vial. Screw the cap on until snug, making sure that it is tight and does not leak when the bottle is turned upside-down.

Repeat the steps above to fill the duplicate sample.

Ice or refrigerate the samples immediately.

The samples must be kept close to 4°C from time of collection until receipt by the lab. The samples must be shipped on ice.

### SAMPLE SHIPMENT

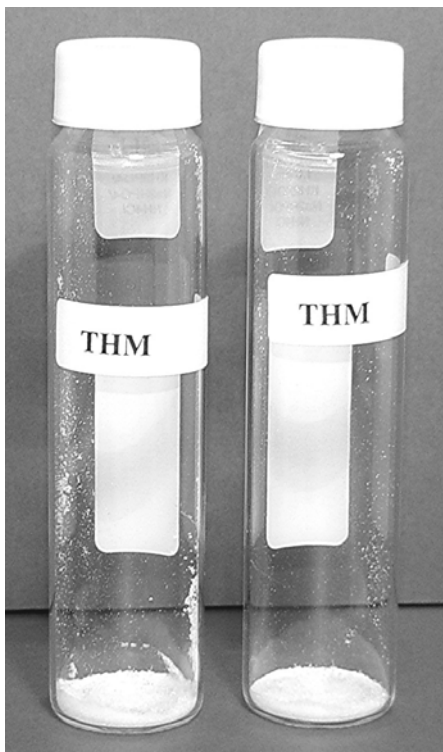
1. Wrap the sample vials in the bubble wrap.
2. Place the container in a Ziploc bag and seal it.
3. Place the bag with the samples in the cooler.
4. Put ice in the cooler
5. Put the Styrofoam lid on the cooler.
6. Place the "Sample Report Forms" in a separate Ziploc bag and seal the bag
7. Place the bag with the form on top of the Styrofoam lid and fold the cardboard flaps over the bag.
8. Tape the box and ship to the DCLS laboratory (see page 3)

## TRIHALOMETHANES (THM)

CODE: THM

### Component

1. TRIHALOMETHANE [THM] FORM
2. BUBBLEWRAP SHEET
3. COOLER
4. TWO 60-ML CLEAR GLASS VIALS (Contains potassium phosphate, monobasic; ammonium chloride and sodium phosphate, dibasic)
5. 8" x 10" ZIPLOC BAG
6. 12" X 15" ZIPLOC BAG
7. RETURN ADDRESS LABEL
8. INSTRUCTIONS – SAMPLING



Turn the tap on and allow the water to flush until the temperature has become constant (usually about 5 to 10 minutes).

Adjust the flow to a trickle (about the size of a pencil). Fill the sample vial completely full until the water is raised-up above the top of the vial. Screw the cap on until snug., making sure that it is tight and does not leak when the bottle is turned upside-down.

Repeat the steps above to fill the duplicate sample.

Ice or refrigerate the samples immediately after collecting. The samples must be kept close to 4°C from time of collection until receipt by the lab. The samples must be shipped on ice.

### SAMPLE SHIPMENT

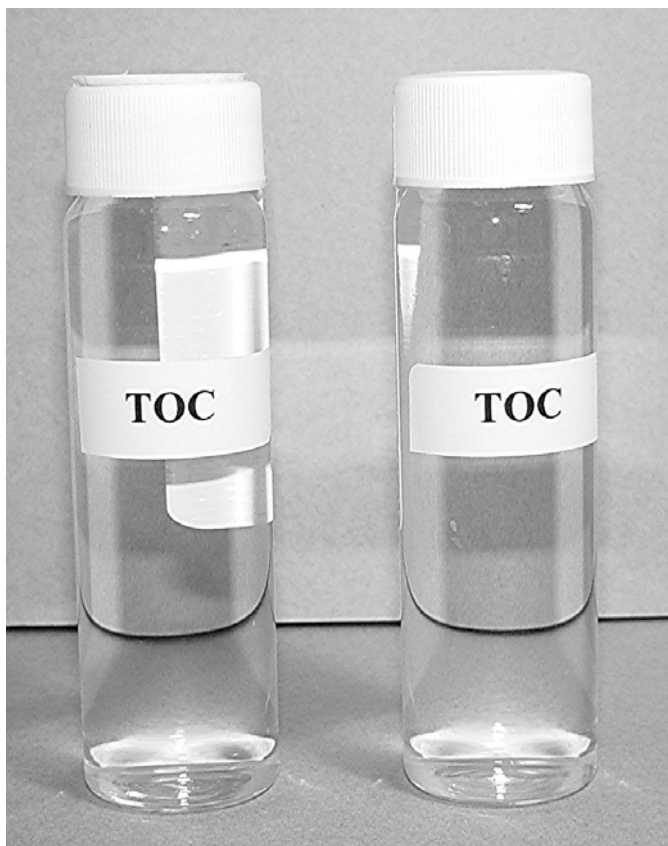
1. Wrap the sample vials in the bubble wrap.
2. Place the container in a Ziploc bag and seal it.
3. Place the bag with the samples in the cooler.
4. Put ice in the cooler
5. Put the Styrofoam lid on the cooler.
6. Place the "Sample Report Forms" in a separate Ziploc bag and seal the bag
7. Place the bag with the form on top of the Styrofoam lid and fold the cardboard flaps over the bag.
8. Tape the box and ship to the DCLS laboratory (see page 3).

## **TOTAL & DISSOLVED ORGANIC CARBON**

### **KIT CODE: TOCD**

#### **Component**

1. TOTAL ORGANIC CARBON FORM
2. INSTRUCTIONS – SAMPLING
3. TWO 40-ML CLEAR GLASS VIALS (Containing a small amount of hydrochloric acid (1:1) as a preservative)
4. POLYFOAM VIAL HOLDER
5. 8" X 10" ZIPLOC BAG
6. 12" X 15" ZIPLOC BAG
7. COOLER – 1 COOLER PER KIT
8. RETURN ADDRESS LABEL



TOC vials contain a small amount of hydrochloric acid (1:1) to preserve the samples. Do not rinse the preservative from the vials when collecting the sample.

To collect the sample, remove the cap and fill the vial to the top. Replace the cap, making sure that it is tight and does not leak when the bottle is turned upside-down.

If you have an air bubble in the TOC vial it is ok.

TOC samples should be kept at 4°C after collection. Refrigerate the samples until

you can pack them on ice for shipping.

See the general shipping instructions on page 2.

Make any corrections to  
Your Mailing Address

Peel-off Sample Labels  
for Sample Vials

|  |  |   |  |
|--|--|---|--|
| DGE-22-302 (REV 4/02) <b>ORDER #11562</b>  |  | <b>PWSID: 2187406</b>   |  |
| <b>ADDRESS CHANGE</b>  |  | <b>FRONT ROYAL, TOWN OF</b>   |  |
| NAME _____<br>COMPANY _____<br>ADDRESS _____<br>CITY _____ ST _____ ZIP _____  |  | Waterworks: <b>INTAKE RAW WATER</b><br>Source: <b>IN001</b><br>Facility: <b>INTAKE RAW WATER</b><br>Location: _____<br>Sample Type: <b>RT</b><br>Compliance: <b>Y</b> |  |
| <b>TOCL</b><br>Mailing Address<br><b>Mr. B. Keith Will</b><br><b>FRONT ROYAL, TOWN OF</b><br><b>1 AQUEDUCT LANE</b><br><b>P O BOX 1560</b><br><b>FRONT ROYAL, VA 22630</b>   |  | Use Ball Point Pen.<br>Press Firmly.<br>Place Peel-off Label on Bottle(s).<br>Use Military Times.   |  |
| Please complete for Lead & Copper or Fluoride Samples:<br><b>Lead/Copper</b><br>Date Last Used: / /<br>Time Last Used: Military Time<br><b>Fluoride (Check one)</b><br><input type="checkbox"/> Colorimetric <input type="checkbox"/> Electrode<br>_____ ppm |  | Sample Container: <b>TOCL</b><br>Date / Time Collected: _____<br>Military Time<br>* 9 2 4 3 2 1 *   |  |
| Sample Container: <b>TOCL</b><br>Date / Time Collected: _____<br>Military Time<br>* 9 2 4 3 2 1 *  |  | Collected By: _____<br>Phone # ( ) _____  |  |

Kit Type

Print Collector's Name and Phone Number  
where we can call if there is a problem

**SAMPLE FORM**